



P A T E N T

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Ifflaender

Application No.: **10/791,664**

Filed: **March 1, 2004**

For: **PUMPING LIGHT SOURCE FOR LASER-ACTIVE MEDIA**

MAIL STOP MISSING PARTS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to MAIL STOP MISSING PARTS, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on June 21, 2004.

By: Michele Hollis
Michele Hollis

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

In accordance with 37 C.F.R. §1.56, Applicant wishes to call the attention of the Examiner to the following references:

U.S. PATENT(S) :

<u>Patent No.</u>	<u>Patentee</u>	<u>Date of Issue</u>
3,621,458	Cabezas, et al.	Nov 16, 1971
5,841,218	Gregor et al.	Nov 24, 1998

FOREIGN PATENT DOCUMENT(S) :

<u>Country</u>	<u>No.</u>	<u>Date of Publication</u>
Germany	24 57 815	Jun 16, 1976
Germany	26 33 550	Mar 31, 1977
EPO	0 105 230	Apr 11, 1984

The references listed above were cited by the German Examiner in Applicant's counterpart German patent application 102 08 585.4 (MPEP §2001.06(a)).

DE 26 33 550 has an English language counterpart namely U.S. Patent No. 4,074,208.

DE 24 57 815 discloses a high pressure gas discharge lamp having a specific discharge housing forming volumes 9 and 10 into which electrodes 2 and 3 protrude. Discharge housing 1 is water cooled by cooling vessel 8 extending around the discharge housing in the area between volumes 9 and 10. Electrodes 2 and 3 are provided with sharp tips.

U.S. PATENT(S) :

<u>Patent No.</u>	<u>Patentee</u>	<u>Date of Issue</u>
5,168,194	Littlechild et al.	Dec 01, 1992

FOREIGN PATENT DOCUMENT(S) :

<u>Country</u>	<u>No.</u>	<u>Date of Publication</u>
Japan	080124521	May 17, 1996

The references listed above were cited by the British Examiner in the search report (copy enclosed) dated September 16,

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2003 of Applicant's counterpart British patent application GB
0304039.1 (MPEP §2001.06(a)).

OTHER U.S. PATENT(S):

<u>Patent No.</u>	<u>Patentee</u>	<u>Date of Issue</u>
4,074,208	Mack et al.	Feb 14, 1978
4,827,484	Cook, Jr.	May 02, 1989
4,847,849	Steffen	Jul 11, 1989
4,956,845	Otto et al.	Sep 11, 1990
5,381,432	Kasahara	Jan 10, 1995
5,617,440	Meier	Apr 01, 1997
5,682,399	Nishida	Oct 28, 1997
5,898,270	Oiye et al.	Apr 27, 1999

PUBLICATIONS

- (1) Brochure, "Discharge Lamps, Lighting Edge Technologies",
USHIO Inc., 47 pages, dated October 2000.
- (2) Brochure, "High Performance Flash and Arc Lamps", Perkin
Elmer Optoelectronics, 40 pages, published 2001
- (3) Publication, "What is a Laser Flashlamp?", 12 pages
(undated)
- (4) "The Heraeus Noblelight Technical Reference Book; The Lamp
Book", 39 pages, date of publication unknown.

- (5) Tungsten Data "Electrode Tip Geometry Selection - 3 pages; Tungsten Electrode Tips Sheets - 2 pages; Tungsten Diameter Selection - 2 pages",
<http://www.pro-ffusiononline.com/tungsten/diameter.htm>,
11/25/2003
- (6) Diamond Ground Products Inc., "Pre-Ground Tungsten Electrode", 4 pages,
<http://www.diamondground.com/electrodes.html> 11/25/2003
- (7) Brochure of Heraeus Amba Ltd., "Amba UV Curing Lamps" 4 pages, 2002-2003.
- (8) Robert G. Seippel, "Optoelectronics for Technology & Engineering", 5 pages, 1989.
- (9) "General Electric Flashtube Data Manual", 2 pages, undated.
- (10) "Plansee; Tungsten Material Properties and Applications" 4 pages, 1999.
- (11) W.L. Bade and J.M. Yos, Technical Report, "A Theoretical and Experimental Study of Thermionic Arc Cathodes", 208 pages, July 16, 1962.
- (12) H. Maecker, "Plasmastroemungen in Lichtboegen in Folge eigenmagnetischer Kompression" pages 198-216, 1955.
- (13) John F. Waymouth, "Analysis of Cathode-Spot Behavior in High-Pressure Discharge Lamps", J.Light & Vis. Env. Vol. 6 No. 2 1982, pages 53-64.
- (14) P. Tielemans, et al., "Electrode Temperatures in High Pressure Gas Discharge Lamps", Philips Journal of Research, Vol. 38 Nos 4/5, 1983, pages 214-223.
- (15) G. Ecker, "Electrode Components of the Arc Discharge" 106 pages, Ergebnisse Der Exakten Naturwissenschaften, Published 1961.

Reference (12) "Plasmastroemungen in Lichtboegen in Folge eigenmagnetischer Kompression" discusses spot mode and diffuse mode and explains that a spot mode can be converted to a diffuse mode by additional heating of the cathode so that a diffuse arc attachment is generated. This reference does not discuss any impacts of the various modes on the lifetime of a pumping light source for a laser.

Copies of the above-listed foreign and non-patent references are enclosed, together with a completed form PTO-1449.

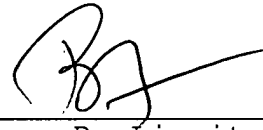
Consideration of these references by the Examiner is respectfully requested. To date, a first Office Action on the merits has not been received in connection with this application. This Information Disclosure Statement is therefore believed to be timely filed.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive

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any right to take any action that would be appropriate to
antedate or otherwise remove any listed document as a competent
reference against the claims of the present application.

Respectfully submitted,



Date: June 21, 2004
ATTORNEY DOCKET NO.: HOE-686.1

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FORM PTO-1449

JUN 23 2004

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

ATTY. DOCKET NO.: HOE-686.1

SERIAL NO.:
10/791,664

APPLICANT(S): R. Ifflaender

FILING DATE: March 1, 2004

GROUP:

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA	3,621,458	Nov 16, 1971	Cabezas, et al.			
	AB	4,074,208	Feb 14, 1978	Mack et al.			
	AC	4,827,484	May 02, 1989	Cook, Jr.			
	AD	4,847,849	Jul 11, 1989	Steffen			
	AE	4,956,845	Sep 11, 1990	Otto et al.			
	AF	5,168,194	Dec 01, 1992	Littlechild et al.			
	AG	5,381,432	Jan 10, 1995	Kasahara			
	AH	5,617,440	Apr 01, 1997	Meier			
	AI	5,682,399	Oct 28, 1997	Nishida			
	AJ	5,841,218	Nov 24, 1998	Gregor et al.			
	AK	5,898,270	Apr 27, 1999	Oiye et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRAN- SLATION YES NO
	AL	24 57 815	Jun 16, 1976	Germany			
	AM	26 33 550	Mar 31, 1977	Germany			
	AN	0 105 230	Apr 11, 1984	EPO			
	AO	080124521	May 17, 1996	Japan			

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

	AP	(1)	Brochure, "Discharge Lamps, Lighting Edge Technologies", USHIO Inc., 47 pages, dated October 2000
	AQ	(2)	Brochure, "High Performance Flash and Arc Lamps", Perkin Elmer Optoelectronics, 40 pages, published 2001
	AR	(3)	Publication, "What is a Laser Flashlamp?", 12 pages (undated)
	AS	(4)	"The Heraeus Noblelight Technical Reference Book; The Lamp Book", 39 pages, date of publication unknown

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449				ATTY. DOCKET NO.: HOE-686.1		SERIAL NO.: 10/791,664	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				APPLICANT(S): R. Ifflaender			
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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANS- LATION YES NO
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	AT	(5)	Tungsten Data "Electrode Tip Geometry Selection - 3 pages; Tungsten Electrode Tips Sheets - 2 pages; Tungsten Diameter Selection - 2 pages", http://www.pro-ffusiononline.com/tungsten/diameter.htm , 11/25/2003				
	AU	(6)	Diamond Ground Products Inc., "Pre-Ground Tungsten Electrode", 4 pages, http://www.diamondground.com/electrodes.html 11/25/2003				
	AV	(7)	Brochure of Heraeus Amba Ltd., "Amba UV Curing Lamps" 4 pages, 2002-2003.				
	AW	(8)	Robert G. Seippel, "Optoelectronics for Technology & Engineering", 5 pages, 1989.				
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	BC	(14)	P. Tielemans, et al., "Electrode Temperatures in High Pressure Gas Discharge Lamps", Philips Journal of Research, Vol. 38 Nos 4/5, 1983, pages 214-223				
	BD	(15)	G. Ecker, "Electrode Components of the Arc Discharge" 106 pages, Ergebnisse Der Exakten Naturwissenschaften, Published 1961				
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